OFFICE OF RESEARCH AND DEVELOPMENT SUPERFUND AND TECHNOLOGY LIAISON (STL) REGION 9 NEWSLETTER

Winter 2009, Edition 46

Happy New Year! It's not only a new year, but you may heard about a new Administration too?! That certainly is exciting news for us here at EPA. Now that science is coming out of the dark again, I expect more tech support requests to start flooding in! If the local Superfund tech support staff is too busy or unable to meet your needs, please don't hesitate to ask me for ORD assistance. The Tech Support Centers have experts in many fields and are waiting to assist you. If you are an EPA Superfund RPM or RCRA site manager, it's a valuable resource that is yours for the asking. Don't hesitate to call me for details.

This version of the quarterly newsletter is again packed with many examples of ways to conduct our activities more sustainably (diesel emissions reductions, green remediation, etc.) and also some ideas that are not necessarily new, but just smart (e.g., Triad and the new ETV MMR Center). There is also the opportunity to take advantage of some excess materials used at the Selma groundwater treatment site in Region 9. See that news under the "Local" section.

Please take a look at the rest of the items in the newsletter and thanks for your attention!

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EPA Region 9
ORD Superfund and Technology Liaison
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Winter 2009 Edition of the Region 9 STL Newsletter:

National News

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- ETV Materials Management And Remediation Center Solicits Stakeholders
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Local News

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- Superfund Basic Research Program Highlight: Zero Valent Iron for Passive Treatment of Acid Rock Drainage
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Web Pages

Recent Documents, Databases, etc.

Serious Scientists Gather 'Round...

N A T I O N A L N E W S

Summary of National Forum on Vapor Intrusion

(Held January 12-13, 2009 in Philadelphia, PA)

Thanks to all who attended our successful conference earlier this month! We met our goal of about 350 people from across the United States, including Federal agencies, state and local

governments, community activists and other impacted residents, property developers and property reuse personnel, private consultants and vendors, and responsible parties undertaking response. This Forum was structured on dual tracks with common sessions. We had technical presentations on sampling, assessment, risk, and engineering. There were also case studies illustrating a cross section of vapor intrusion issues from the perspective of community stakeholders, Brownfields, EPA, and states. We had two breakout sessions: one on community issues and one on government programs. The Community Stakeholder Breakout presented areas and issues of interest for community groups, residents, developers and possibly local government. The Government Stakeholder Breakout pertained to internal issues of program implementation, policy and guidance. We also had close to 30 poster presentations.

Thank you to all who supported our conference, including ORD's Office of Science Policy, OSWER's Office of Superfund Remediation and Technology Innovation, and ORD's NERL and Land Research Program. Thanks also go out to the "champions" of the Monday evening poster session, including HydroGeoLogic, Inc., CH2MHill, Sullivan International, and Pontarolo Engineering.

The following website has presentation material and speaker bios, and we hope to have Proceedings completed and posted here by early March 2009: http://www.epa.gov/osp/stlworkshops.htm . If you have any further questions about this workshop, please feel free to contact Bill Hagel <hagel.bill@epa.gov> or Mike Gill <gill.michael@epa.gov>.

Update on Green Remediation

The Engineering Forum recently completed a 3-part online seminar series on green remediation called "Green Remediation: Opening the Door to Field Use". These seminars were first offered during the National Association of Remedial Project Managers (NARPM) meeting held in Portland in July, 2008. The online seminars were extremely popular, with well over 100 lines (phone and streaming audio) reserved for each of the sessions. Many lines often served multiple people in an office, so the count is actually much higher. The Engineering Forum is planning another full-day green remediation session at NARPM this coming June in Atlanta, so if you are attending, be sure to look for this session! Archives for this seminar series are available at: http://cluin.org/live/archive.cfm . The topics covered were:
Session A - Introduction and Carbon Calculus: A RCRA Case Study
Session B - Green Remediation Tools and Examples
Session C - Green Remediation Tools and Examples

Remember that many of the tools and guidance for green remediation are available here: http://cluin.org/greenremediation/ . There are a number of new tools that have recently been posted to this page. They include the following:

- Best Management Practices Toolkit (guidance documents, etc.)
http://cluin.org/greenremediation/subtab_b1.cfm

- Contracting and Administrative Toolkit
http://cluin.org/greenremediation/subtab_b2.cfm

- Decision Support Tools (34 calculators and models)
http://cluin.org/greenremediation/subtab_b3.cfm

- Partnering Tools
http://cluin.org/greenremediation/subtab_b4.cfm

This CLU-IN platform serves as EPA's primary vehicle for sharing information about green remediation (GR) and inspiring novel ways to employ GR best management practices. Since its Earth Day 2008 introduction, GR Web has grown to accommodate the new user-friendly "toolbox" of best practice, contracting, decision-making, and partnership tools (as described above); 22 brief "profiles" of green remediation strategies already used at specific sites; nearly 80 key documents or related organizational links; and a mechanism for requesting GR details or technical assistance. GR Web's technical information focuses on holistic sustainability of existing or anticipated remedies; guidance and policy issued by government agencies; integration of renewable energy resources; green strategies for design, construction, and operation of remedies; and treatment system optimization resulting in green cleanups. Again, find it here: http://clu-in.org/greenremediation/

EPA continues to work on green remediation issues, both policy and technical. There is collaboration going on internally between programs and also with agencies outside of EPA. Here is a list of those groups that are currently active and working to advance green remediation best practices. It is obviously a very active field at EPA! More detail on each of the workgroups can be found at the following intranet page (sorry, non-EPA'ers!): http://intranet.epa.gov/osrti/greenremediation/index.htm .

HQ-Technology Innovation Program Green Remediation (GR) Effort
Superfund GR Workgroup
Technical Support Project (TSP) Green Committee
Green Remediation, Revitalization, and Reuse (GRRR) Team
Climate Change and Contaminated Lands (CCCL) Workgroup
Climate Change Coordinating Committee (C4)
Association of State and Territorial Solid Waste Management Officials (ASTSWMO) Greener Cleanups Task Force

Interstate Technology and Regulatory Council (ITRC) Green and Sustainabkle Remediation (GSR) Project
Federal Remediation Technologies Roundtable (FRTR) GR Focus
Brownfields Sustainability Plots: Green Redevelopment
Tribal Initiatives
Sustainable Remediation Forum (SuRF)

EPA Partnerships with other Federal Agencies:
Dept of Defense
Dept of Energy

State Initatives:
Cal/EPA GR Team
Illinois Greener Cleanups
Wisconsin Initative on Sustainable Cleanups (WISC)

EPA Regional Initiatives:
Region 3 Pilot Project on Green Cleanup Standards
Region 9 Cleanup-Clean Air Initiative

Regulatory Insight: Europe's New Approach to Chemical Regulation Has Broad Impact

(From National Defense Center for Energy and Environment Newsletter, Summer/Fall '08)

(Note: This is not typical material for this newsletter, but is something that is very insightful and with a new Administration, may someday affect the EPA's regulatory outlook.)

Prior to 2006, Europe's legislative framework for chemical substances was an ineffective patchwork of approximately 40 different directives and regulations. There were different rules for "existing" chemicals, those on the European market before 1981, and "new" chemicals, those introduced to the market after 1981. While new chemicals had to be tested before they were placed on the market, there were no such provisions for the nearly 100,000 existing chemicals. As a result, there was a significant lack of information available about the effects of the majority of existing chemicals on human health and the environment. Furthermore, the burden of performing risk assessments of chemicals was on governmental entities rather than the businesses that manufactured, imported, or used the substances.

To address these shortfalls, the European Commission (EC) issued the regulation on the Registration, Evaluation and Authorisation and Restriction of Chemicals (REACH). Replacing the patchwork of 40 other laws, it entered into force on June 1, 2007. The law puts the burden of proof on the chemical producer or importer (into the EU), not on public authorities or downstream users, to show that industrial chemicals and substances used in everyday products are safe. http://www.ndcee.ctc.com/newsletters/NDCEE-Newsletter_Summer_Fall08.pdf

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New Tools and Technologies

ORD Research Snapshot: Reducing Subsurface Hexavalent Chromium to Harmless Trivalent Chromium Through Injection of Ferrous Iron

(Thanks to Kathleen Graham, Region 8 STL)

Below is a link to an ORD Research Snapshot describing a new method of reducing Cr(VI) to harmless Cr(III) in groundwater or soil via injection of ferrous iron. It is simpler and less expensive than installation of a permeable reactive barrier, and at the site where it was implemented, major reductions were seen within a year. This research and pilot project were conducted by ORD's National Risk Management Research Laboratory, and resulted in a patented process. More information can be found at the following intranet site:
http://intranet.epa.gov/ospintra/scienceportal/ResearchSnapshots/FerrousIron.htm

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ETV Materials Management And Remediation Center Solicits Stakeholders

ETV
Materials Management and Remediation Center

ETV recently announced the addition of a new Materials Management and Remediation (MMR) Center. The MMR Center, operated in cooperation with Battelle, verifies materials management technologies, including for recycling, beneficial use of waste materials, recovery of useful components of waste, and treatment to minimize disposal requirements (e.g., containment, volume, cost); and technologies to remediate contaminated land and ground water, such as that found at Superfund sites and other properties where industrial or commercial activities have resulted in a legacy of hazardous constituents that limit future use of the property. The MMR Center is currently soliciting stakeholders to help guide verification activities in these areas. ETV stakeholders assist the program by helping develop protocols for verification testing, prioritizing the types of technologies to be verified, and implementing outreach activities to the customer groups they represent.

The MMR Center is planning an informational teleconference for potential stakeholders in February 2009. If you are interested in becoming a stakeholder or participating in this teleconference, or for questions about the MMR Center, please contact Amy Dindal, Battelle, at (561) 422-0113 or dindala@battelle.org, or Teri Richardson, EPA, at (513) 569-7949 or richardson.teri@epa.gov. Additional information on the MMR Center is available on the ETV Web Site at: http://www.epa.gov/nrmrl/std/etv/center-mmr.html.

ETV Verifies Diesel Emission Controls

(Edited from NRMRL News of Nov 6, 2008)

Developing a new environmental technology is one thing; getting it accepted in the marketplace is another. To help bridge this gap in 1995, the EPA created the Environmental Technology Verification Program (ETV). Its goal is to verify the performance of commercial-ready environmental products, thereby helping to speed their entry into the marketplace. Through six non-profit verification centers, ETV provides uniform, controlled, and objective testing of technologies in all media-air, water, and land-that support EPA's goal of a cleaner and healthier environment. A notable example is the ongoing verification of 11 innovative diesel retrofit (upgrade) technologies designed to reduce particulate matter, hydrocarbons, nitrogen oxides, and carbon monoxide emissions from diesel engine exhaust.

Background

Diesel engine in a dynamometer test cell: Diesel engines in trucks and buses are popular because they are durable and provide good fuel economy. But they are a serious environmental challenge because the more than 11 million diesel-powered vehicles currently on U.S. highways emit significant quantities of air pollutants. Diesel emissions contribute to ozone levels that prevent many communities from meeting national minimum standards for ambient air quality, and contribute to forestry and crop losses. Further, the particulate matter in diesel exhaust is linked to many respiratory and cardiovascular diseases; EPA has determined that diesel exhaust including particulate matter is a likely carcinogen.

Private-sector developers have responded with a variety of innovative retrofit technologies for trucks, buses, and non-road equipment. To assist with its entry into the marketplace, the ETV program, in cooperation with its Air Pollution Control Technology Center, is providing independent, quality-assured data on the performance of some of these technologies. They involve three basic approaches, Exhaust Treatments, Retrofit Fuels, and Crankcase Filtration Systems.

Exhaust Treatments

Exhaust systems such as Diesel Particulate Filters (DPFs), Diesel Oxidation Catalysts (DOCs), and Selective Catalytic Reduction (SCR) systems are devices that are installed in the exhaust system, similar to a muffler. The DPFs trap particulate matter and burn it in the exhaust stream. The DOCs reduce particulate matter, hydrocarbons, and carbon monoxide emissions by

converting them to water vapor and carbon dioxide. The SCR systems reduce nitrogen oxide emissions by converting them to harmless nitrogen gas.

Retrofit Fuels

Retrofit fuels include fuel reformulations and fuel additives that modify the properties of diesel fuel, allowing it to burn more cleanly.

Crankcase Filtration Systems

Crankcase filtration systems work by capturing the "blowby" (unburned) diesel gases and removing their particulate matter through the use of filters before routing them to the engine intake.

The goal of the ETV diesel retrofit testing is to determine the percent of emission reduction achieved for particulate matter, nitrogen oxides, hydrocarbons, and carbon monoxide, compared to the percent emissions of the same engine without the retrofit technology. ETV does not verify performance claims. Rather, it provides a credible, highly quality-assured data set on technology performance, which is "verified" to be correct. It is then up to others to evaluate the vendor/manufacturer's claim in light of the data. For example, a diesel retrofit vendor would probably take its data set to the National Clean Diesel Campaign, sponsored by the EPA's Office of Transportation and Air Quality, for review and posting to its verified technology list.

In addition to the verification reports and statements, the ETV process also includes the development of test/quality assurance plans, and verification protocols (uniform testing for a specific category of technologies).

Selected Outcomes

The ETV diesel retrofit program calculated some potential environmental benefits based on adoption of the tested technologies at selected market penetration rates. Using EPA's regulatory impact analysis data for diesel fuel sulfur control requirements*, and assuming 10 percent market penetration of the first seven verified diesel retrofit technologies, the following outcomes can be calculated over a seven-year period:

- 9,000 to 31,000 tons of particulate matter would be reduced.
- $4.4-$15.5 billion (in 1995 dollars) would be saved through the prevention of adverse health and environmental effects.
- 680-2,400 deaths could be avoided.
- Cities and states would be assisted in meeting national air quality standards, especially in the 10 areas of the country now at risk for exceeding particulate matter standards and the 45 areas at risk for exceeding ozone standards.

A full reporting of outcomes, actual and projected, can be found in Environmental Technology Verification (ETV) Program Case Studies, Demonstrating Program Outcomes

(http://www.epa.gov/etv/pubs/600r06001.pdf) (PDF) (117 pp, 3 MB) (EPA/600/R-06/001) which is on the ETV Outcomes Web page (http://www.epa.gov/etv/outcomes.html).

*EPA Regulatory Impact Analysis: Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements (EPA/420/R-00/026), December 2000

Contact: Jane Ice, NRMRL Office of Public Affairs (513) 569-7311

Rapid Site Characterization (RSC) – Streamline Investigations, Save Money, and Reduce Restoration Timeframes

(From AFCEE newsletter of January 13, 2009)

(Note: I've included this so readers can see that Air Force and EPA both consider the Triad approach an important component of waste site cleanups.)

Rapid Site Characterization (RSC) is an accelerated procedure for delineating contamination at a site. Often referred to as the Triad approach or accelerated site characterization, it is part of the Air Force's increased efforts to utilize a performance-based management (PBM) approach for environmental restoration. RSC has gained wide acceptance by the regulated community. Components of RSC (*e.g.*, dynamic work strategies and field test kits) have even been included as Best Management Practices in the US EPA's *Green Remediation: Best Management Practices for Surface Excavation and Surface Restoration*. It is a results-oriented approach for delineating contamination that incorporates systematic planning and logic to design a dynamic field strategy for developing an accurate conceptual site model. The process effectively expedites delineation of contamination at complex sites using systematic project planning, dynamic work strategies, and real-time data analysis. The goal of RSC is to reduce uncertainties in site characterization and contaminant delineation. AFCEE/TDV can assist Air Force project managers with successful implementation of RSC/Triad by providing tools that help managers:

· Identify data needs and Data Quality Objectives (DQOs) to manage uncertainties

· Identify project goals, considering issues such as site reuse plan, likely remedies, and exit strategies

· Identify potential data management and real-time data measurement tools

· Identify possible contingencies and "what if" scenarios

· Create a decision tree

· Develop a flexible sampling and analysis plan that clearly identifies sampling locations and contingencies

· Identify required laboratory and field analyses for the potential contamination

· Assist with selecting appropriate field technologies

· Identify innovative technologies for contaminant screening and analysis

· Provide management tools for tracking data, stages, costs, and activities.

RSC, if implemented properly, can streamline investigation activities, save money, and reduce the time it takes to complete restoration. The AFCEE/TDV can provide AF managers a resource to achieve these goals. Email Ed Brown (AFCEE/TDV) at edward.brown@brooks.af.mil or call at 210-536-5239 for assistance.

L O C A L N E W S

Excess Chemicals Available from Superfund Site (not like it sounds.....!)

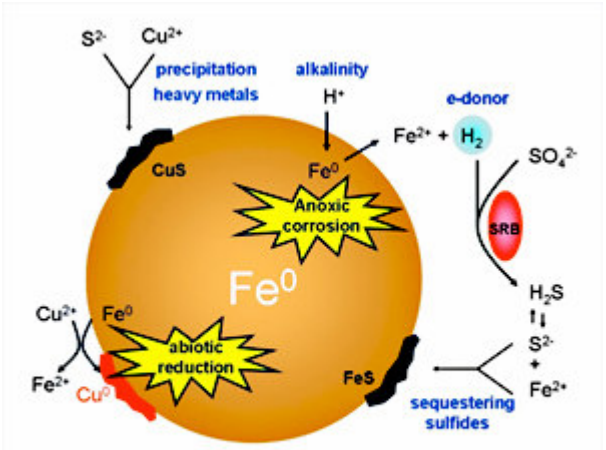
The RPMs at the Selma Superfund site in Region 9 are nearing the end of their project and have some excess chemicals used in the groundwater treatment plant. If there is anyone (RPM or other) in the western U.S. or elsewhere that is interested in these excess, still usable chemicals, you can acquire them now. The chemicals are sulfuric acid, sodium hydroxide, ferrous chloride and polymer. The quantities are as follows:

1950 gallons of ferrous chloride
3246 gallons of 25% sodium hydroxide
260 gallons of sulfuric acid

Please contact either the Region 9 RPM, Charnjit Bhullar (415-972-3960) or Waleed (Wally) Shaheen of the US Army Corps of Engineers (402-293-2517) and talk to them about how to get the chemicals to your project.

Superfund Basic Research Program Highlight: Zero Valent Iron for Passive Treatment of Acid Rock Drainage

(Edited from SBRP News, Dec 5, 2008 about this University of AZ research project)



Mechanisms of zero valent iron during passive treatment of acid rock drainage.

The Superfund Basic Research Program (SBRP) is a network of university grants that are designed to seek solutions to the complex health and environmental issues associated with the nation's hazardous waste sites. The research conducted by the SBRP is a coordinated effort with the Environmental Protection Agency, which is the federal entity charged with cleaning up the worst hazardous waste sites in the country. More can be found at their website: http://www.niehs.nih.gov/research/supported/sbrp/ . Each month, they highlight some of their research. One recent story from last month (December 2008) was from research done at the University of Arizona on treating acid rock drainage from mines. That story follows.

Background: Abandoned mines and mine tailings from metal ore mining generate large quantities of acidic rock drainage (ARD). ARD is formed by the accelerated weathering of metal-sulfide-rich rocks that are exposed to oxygen by mining activities. The resulting plumes are not only highly acidic (due to sulfuric acid formed from sulfide mineral oxidation), but also contain high concentrations of heavy metals (e.g., Cu, Zn, Pb). ARD lowers the pH of water to levels toxic to aquatic flora and fauna, disrupting the ecosystem at all levels.

Because ARD is typically generated at remote sites where the parties responsible for the contamination are difficult to pinpoint, viable solutions for the treatment of ARD must be low-cost and low-maintenance. Often, passive treatment systems such as constructed wetlands and

permeable reactive barriers (PRB) are used. Many passive treatment strategies rely on the activity of sulfate-reducing bacteria (SRB), which utilize sulfate as a terminal electron acceptor in the absence of oxygen. PRBs for treatment of ARD generally use organic substrates as electron donors.

For the complete article, go to:
http://tools.niehs.nih.gov/sbrp/researchbriefs/view.cfm?Brief_ID=168

Triad Use at Naval Base San Diego Saves an Estimated Six Years and $3 Million for Site Investigation

(Edited from Tech News and Trends, January 2009)

The U.S. Naval Facilities Engineering Command Southwest (NAVFAC SW) used the Triad approach to collect an integrated hydrogeologic and chemical dataset for expediting and optimizing characterization of a volatile organic compound (VOC) plume at Naval Base San Diego (NBSD), CA. The 295-acre "IR Site 22" was identified in 2003 when VOC concentrations reaching 100 mg/L were reported in an upgradient well as part of a remedial investigation at "NBSD IR Site 4." As a result, NAVFAC SW initiated investigative actions to identify potential sources of VOC contamination in ground water, determine whether the source(s) were caused by Navy activities, and delineate VOCs in ground water.

Triad implementation provided an expedited high-density dataset and a refined CSM in near-real time, resulting in cost avoidance estimated at $3 million and schedule savings of approximately six years. The Navy continues to work with regulatory stakeholders in developing a remedial strategy for IR Site 22.

Contributed by Jim Leather, Ph.D. SPAWAR System Center (jim.leather@navy.mil or 619 -553-6240) and Karen Collins, Richard Brady & Associates (kcollins@rbrady.net or 858-634-4516)

For the complete article, please go to the following website:
http://cluin.org/download/newsltrs/tnandt0109.pdf

DATEBOOK - UPCOMING EVENTS

This section of the newsletter is an attempt to present both EPA and non-EPA sponsored environmental technology related courses and conferences. But being a quarterly publication, it is impossible for this newsletter to always be up-to-date. For the most pertinent information on upcoming EPA courses, see http://www.trainex.org . These events are listed chronologically.

Many of the entries in these newsletters are from TIO's "TechDirect" emails (thank you Jeff Heimerman!). TechDirect is also tied to the clu-in webpage, which lists many training opportunities, including the following:

Announcement of Courses:	http://clu-in.org/courses
Archive of Courses:	http://clu-in.org/live/archive.cfm
Internet Training	http://www.cluin.org/training

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Internet Based Training

These are typically 1-2 hour online courses where the participant follows a webpage presentation, while listening on the phone. Check - http://www.itrcweb.org or http://www.clu-in.org/studio/seminar.cfm to verify times and registration, unless other websites are mentioned below.

January 30 - A New Year, A New CLU-IN!
1:00-2:00pm EST

February 10 - In Situ Bioremediation of Chlorinated Ethene - DNAPL Source Zones
2:00 p.m. - 4:15 p.m. EST

February 19 - Enhanced Attenuation of Chlorinated Organics: A Site Management Tool
11:00 a.m. - 1:15 p.m. EST

February 26 - Evaluating, Optimizing, or Ending Post-Closure Care at Muni SW Landfills
11:00 a.m. - 1:15 p.m. EST

March 24 - FAQs Regarding Management of Chlorinated Solvents in Soils and Groundwater
11:00 a.m. - 1:00 p.m. EST

US EPA Tech Support Project Meeting
January 26-29, 2009
San Diego, CA
For more info, contact Linda Fiedler at <fiedler.linda@epa.gov> or check:
http://www.epa.gov/tio/tsp/meetings.htm

5th International Conference on Remediation of Contaminated Sediments
February 2-5, 2009
Jacksonville, FL
http://www.battelle.org/sedimentscon

CalEPA Green Remediation Symposium
February 4, 2009
Sacramento, CA or live webcast
http://www.dtsc.ca.gov/OMF/GlobalPerspectives.cfm

CREATING CERTAINTY IN AN UNCERTAIN WORLD:
Water Resources Issues in California
February 9, 2009
Ontario, California
http://www.agwt.org/events/2009/09CAWaterResources_Reg.htm

Translating SBRP Triumphs into Public Health Progress: Understanding and Implementing Effective Research Translation
February 11-13, 2009
Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY
http://www.niehs.nih.gov/research/supported/sbrp/events/index.cfm

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2009 AWWA Research Symposium: "Emerging Organic Contaminants"
February 12-13, 2009
Austin, TX
http://www.awwa.org/Conferences/Content.cfm?ItemNumber=42665&navItemNumber=42842

Air Monitoring for Emergency Response
February 17-18, 2009
USCG, Novato, CA
http://www.trainex.org

Introduction to Groundwater and Watershed Hydrology Course:
Monitoring, Assessment and Protection
February 23-24, 2009
Orange, CA
http://www.grac.org/hydrology.asp

Radiation Safety
February 24-26, 2009
USCG, Novato, CA
http://www.trainex.org

GROUNDWATER RESOURCES ASSOCIATION of California
GW Monitoring Design, Analysis, Communication & Integration with Decision Making
February 25-26, 2009
Orange, CA
http://www.grac.org/monitoring.asp

REMTEC
March 3-5, 2009
Atlanta, GA
http://www.RemTEC09.com

Triad Training for Managers
March 4, 2009
Atlanta, GA
http://www.trainex.org/classdetails.cfm?classid=3983&courseid=795

19th Annual AEHS Meeting & West Coast Conference on Soils, Sediments, and Water
March 9-12, 2009
San Diego, California
http://www.aehs.com/conferences/westcoast/index.htm

SWANA's 32nd Annual Landfill Gas Symposium
March 9-12, 2009
Atlanta, Georgia
http://swanastore.stores.yahoo.net/31anlagassy1.html

The 24th International Conference on Solid Waste Technology and Management
March 15 - 18, 2009
Philadelphia, PA
http://www.widener.edu/solid.waste

2009 Association of Environmental Professionals State Conference
March 15-18, 2009
San Francisco, CA
http://www.califaep.org/content.asp?pid=25

H&S 8-Hr Refresher
March 17-20, 2009
Richmond, CA (EPA Region 9 Lab)
http://www.trainex.org

Removal Process for RPMs
March 18-19, 2009
San Francisco, CA
http://www.trainex.org/classdetails.cfm?classid=3975&courseid=53

First International Greenhouse Gas Measurement Symposium
March 22-24, 2009
San Francisco, CA
http://www.awma.org/go/ghgmeasurement09

Groundwater Salinity: A Groundwater Dilemma
March 24-25, 2009
Sacramento, CA
http://www.grac.org/salinity.asp

Intersol 2009
March 24-26, 2009
Paris, France
http://www.intersol.fr

ITRC: Vapor Intrusion Pathway: A Practical Guideline
April 6-7, 2009
Oklahoma City, Oklahoma
http://www.itrcweb.org/VaporIntrusion

Hydrologic Analysis for Ecosystem Restoration
April 6-10, 2009
Davis, CA
http://www.fedcenter.gov/Events/index.cfm?id=10910&pge_id=1854

2009 Conference on Design and Construction Issues at Hazardous Waste Sites
April 13-15, 2009
Philadelphia, PA
https://superfund.usace.army.mil/2009DCHWS

Sampling for Hazardous Materials
April 14-16, 2009
TBD, EPA Region 8
http://www.trainex.org/offeringslist.cfm?courseid=20&all=yes

Preliminary Assessment/Site Inspection
May 5-7, 2009
San Francisco (Region 9 office)
http://www.trainex.org

In Situ and On-Site Bioremediation - The 10th International Symposium
May 5-9, 2009
Baltimore, MD
http://www.battelle.org/conferences/bioremediation/

Hazardous Materials Incident Response Operations
May 18-22, 2009
TBD, EPA Region 9
http://www.trainex.org/offeringslist.cfm?courseid=23&all=yes

11th International Congress on Combustion By-Products and Their Health Impacts
May 31 - June 3, 2009
Research Triangle Park, NC
http://www.lsu.edu/piccongress/

SWANA's 14th Annual Landfill Symposium
June 1-5, 2009
Savannah, GA
http://lfswm.swana.org/

NARPM 2009
June 1-5, 2009
Atlanta, GA
http://www.epanarpm.org

Micropol and Ecohazard 2009 - 6th IWA/GRA Specialized Conference on Assessment and Control of Micropollutants/Hazardous Substances in Water
June 8-10, 2009
San Francisco, CA
http://www.grac.org/micropol.asp

International Conference on the Environmental Implications and Applications of Nanotechnology
June 9-11, 2009
University of Massachusetts, Amherst, MA
http://www.umass.edu/tei/conferences/NanoConference/index.html

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The Air & Waste Management Association's 101st Annual Conference & Exhibition (ACE)
June 16-19, 2009
Detroit, MI
http://www.awma.org/ACE2009/

Hazard Ranking System
June 23-26, 2009
San Francisco, CA
http://www.trainex.org/classdetails.cfm?classid=3977&courseid=38

H&S 8-Hr Refresher
June 23-26, 2009
San Francisco (Region 9 office)
http://www.trainex.org

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Munitions Response and Operational Range Sustainability Conference
July 19-22, 2010
Reno, NV
http://www.battelle.org/conferences/range/

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25th Annual International Conference on Soils, Sediments and Water
Analysis, Site Assessment, Fate, Environmental and Human Risk Assessment, Remediation and Regulation
University of Massachusetts, Amherst
October 19-22, 2009
http://www.umasssoils.com/index.htm

W E B P A G E S

ORD Land Research Fact Sheets

(Thanks to Kathleen Graham, Region 8 STL)

The ORD land research website has a number of fact sheets describing land research programs. Here is the link to these fact sheets: http://www.epa.gov/ord/lrp/factsheet.htm . And below you will find the list of fact sheets available..

3MRA Technology Improves Risk Assessment of Hazardous Waste Streams
Assessing Human Health Risks at Contaminated Sites
Bioreactor Landfill Research Supports Sustainable Waste Management Initiatives
Comparing Ways to Reduce Risk Assists with Reduction of High-Priority Chemicals
Developing Innovative Solutions for Oil Spill Cleanup
In Situ Treatment Technologies Reduce Site Cleanup Costs
Metal Speciation Research: Providing Effective Remediation and Risk Insights at Contaminated Sites

RECENT DOCUMENTS, DATABASES, ETC.

These entries are arranged alphabetically. Thanks to TechDirect, Tech Trends, NRMRL News, the ETV Program, DOE, DoD and others for posting their latest documents. And remember, many of these are available in paper format in the Region 9 library. Use your local library.....or it may disappear. It's happened at EPA, although the powers that be have seen the light. Now we all hope that those impacted libraries can recover.

An Overview of Land Use Control Management Systems (ITRC BRNFLD-3)
(December 2008, 134 pages)
http://www.itrcweb.org/Documents/BRNFLD-3.pdf

Arsenic Removal from Drinking Water by Adsorptive Media, U.S. EPA Demonstration Project at Wellman, TX, Six-Month Evaluation Report
http://www.epa.gov/nrmrl/pubs/600r08080/600r08080.pdf
(PDF) (57 pp, 2.10 MB) (EPA/600/R-08/080)
July 2008

Binding of Vapour-Phase Mercury (Hg0) on Chemically Treated Bauxite Residues (Red Mud)
Hutson, N.D. and B. Attwood. (2008). Environmental Chemistry, 5, 4: 281-288.
http://www.publish.csiro.au/nid/188.htm?nid=188&issue=4140

Bulk Synthesis of Monodisperse Ferrite Nanoparticles at Water-Organic Interfaces under Conventional and Microwave Hydrothermal Treatment and Their Surface Functionalization
Baruwati, B., M. N. Nadagoiuda, and R. S. Varma. (2008).
http://pubs.acs.org/doi/abs/10.1021/jp807245g
G.C. Schatz (ed.), Journal of Physical Chemistry. American Chemical Society, Washington, DC, 112(47):18399-18404.

Comparison of the Alternative Asbestos Control Method and the NESHAP Method for Demolition of Asbestos-Containing Buildings
http://www.epa.gov/nrmrl/pubs/600r08094/600r08094.pdf
(PDF) (229 pp, 8.46 MB) (EPA/600/R-08/094)
October 2008

Comparison of Pumped and Diffusion Sampling Methods to Monitor Concentrations of Perchlorate and Explosive Compounds in Ground Water, Camp Edwards, Cape Cod, Massachusetts, 2004-05
(December 2008, 26 pages)
http://pubs.usgs.gov/sir/2008/5109/

December 2008 State Coalition for Remediation of Drycleaners Newsletter
(December 2008, 7 pages)
http://www.drycleancoalition.org/download/news1208.pdf

Demonstration of Resistive Heating Treatment of DNAPL Source Zone at Launch Complex 34 in Cape Canaveral Air Force Station, Florida, Final Innovative Technology Evaluation Report
http://www.epa.gov/nrmrl/pubs/540r08004/540r08004.pdf
(PDF) (133 pp, 10.42 MB) (EPA/540/R-08/004)
August 2008

Demonstration of Steam Injection/Extraction Treatment of a DNAPL Source Zone at Launch Complex 34 in Cape Canaveral Air Force Station, Final Innovative Technology Evaluation Report
http://www.epa.gov/nrmrl/pubs/540r08005/540R08005a.pdf
(PDF) (121 pp, 8.46 MB) (EPA/540/R-08/005a)
September 2008

Determination of Rates and Extent of Dechlorination in PCB-Contaminated Sediments During Monitored Natural Recovery
http://www.epa.gov/nrmrl/pubs/600s08012/600s08012.pdf
(PDF) (8 pp, 786 KB) (EPA/600/S-08/012)
August 2008

ECO Update/Ground Water Forum Issue Paper: Evaluating Ground-Water/Surface-Water Transition Zones in Ecological Risk Assessments
(EPA 540-R-06-072) (July 2008, 30 pages)
http://www.epa.gov/oswer/riskassessment/ecoup/pdf/eco_update_08.pdf

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Engineering Issue: Indoor Air Vapor Intrusion Mitigation Approaches
(EPA 600-R-08-115) (October 2008, 49 pages)
http://www.epa.gov/nrmrl/pubs/600r08115/600r08115.htm

Enhanced Filtration and Contaminant Degradation Opportunities Offered by Natural Drainage Systems
(August 2008, 20 pages)
http://www.clu-in.org/download/studentpapers/africadrainage.pdf

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EUGRIS Corner - Attached are a number of new publications from this European group.
http://www.eugris.info/whatsnew.asp

Environment Agency (England and Wales) United Kingdom Ecological Risk Assessment for Contaminants in Soils (2008)
http://publications.environment-agency.gov.uk/pdf/SCHO1008BOTK-e-e.pdf

Environment Agency (England and Wales) United Kingdom Guidance on the Use of Bioassays in Ecological Risk Assessment (2008)
http://publications.environment-agency.gov.uk/pdf/SCHO1008BORU-e-e.pdf

Assigning Groundwater Assessment Criteria for Pollutant Inputs (2008)
http://www.sepa.org.uk/about_us/idoc.ashx?docid=5a0b6e42-1f7a-42ea-a2b2-c173d2ff842d&version=-1

Institution of Civil Engineers Demolition Protocol (2008)
http://www.ice.org.uk/downloads//Demolition%20Protocol%202008.pdf

Report of the NICOLE Workshop: Environmental Decision Support Systems 9-10 October 2008 Madrid, Spain. (2008)
http://www.nicole.org/documents/stream.aspx?o=2&fn=NICOLE_Docs_222.pdf

RTD RESULTS: USE, EXPLOITATION AND COMMUNICATION EXPERIENCES ECODIS project
http://www.fenk.wau.nl/ecodis

Evaluation of the Physical Stability, Ground Water Seepage Control, and Faunal Changes Associated With an AquaBlok Sediment Cap
Barth, E.F., D. Reible and A. Bullard. (2008). Remediation, 18, 4: 63-70
http://www3.interscience.wiley.com/journal/121459444/abstract?CRETRY=1&SRETRY=0

Evaluation of Receiving Water Improvements from Stream Restoration (Accotink Creek, Fairfax City, VA)
http://www.epa.gov/nrmrl/pubs/600r08110/600r08110.pdf
(PDF) (69 pp, 2.05 MB) (EPA/600/R-08/110)
September 2008

Field Techniques for Estimating Water Fluxes Between Surface Water and Ground Water
http://pubs.usgs.gov/tm/04d02/

Framework for Investigating Asbestos-Contaminated Superfund Sites
(OSWER Directive 9200.0-68) (September 2008, 71 pages)
http://www.epa.gov/superfund/health/contaminants/asbestos/#policy

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Frequently Asked Questions Regarding Management of Chlorinated Solvents in Soils and Groundwater
(July 2008, 38 pages)
http://www.estcp.org/viewfile.cfm?Doc=ER-0530-FAQ.pdf

Green Chemistry Initiative Final Report of Recommendations
www.dtsc.ca.gov/greenchemistry

Green Remediation: Best Management Practices for Excavation and Surface Restoration
(EPA 542-F-08-012) (December 2008, 4 pages)
http://www.epa.gov/tio/download/remed/gr_quick_ref_fs_exc_rest.pdf

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In-Situ Chemical Oxidation: A Study of the Current State of the Technology
(August 2008, 9 pages)
http://www.cluin.org/download/studentpapers/westchemox.pdf

Kinetic Modeling of Polychlorinated Dibenzo-p-dioxin and Dibenzofuran Formation Based on Carbon Degradation Reactions
Grandesso, E., S. Ryan, B. Gullett, A. Touati, E. Collina, M. Lasagni, and D. Pitea. (2008)
http://pubs.acs.org/toc/esthag/42/19?cookieSet=1
Environmental Science and Technology, American Chemical Society, Washington, DC, 42(19):7218-7224.

Measuring Contaminant Resuspension Resulting from Sediment Capping
http://www.epa.gov/nrmrl/pubs/600s08013/600s08013.pdf
(PDF) (8 pp, 1.02 MB) (EPA/600/S-08/013)
August 2008

Mine Waste Technology Program: Electrochemical Tailings Cover
US EPA. (2008). Jordan, D.
http://www.epa.gov/ORD/NRMRL/pubs/600r08095/600r08095.pdf
(PDF) (62 pp, 1.39 MB) EPA/600/R-08/095

Mine Waste Technology Program, In Situ Source Control Of Acid Generation Using Sulfate-Reducing Bacteria
http://www.epa.gov/nrmrl/pubs/600r08096/600r08096.pdf
(PDF) (77 pp, 655 KB) (EPA/600/R-08/096)
June 2008

Mine Waste Technology Program: Passive Treatment for Reducing Metal Loading
US EPA. (2008). Jordan, D.
http://www.epa.gov/ORD/NRMRL/pubs/600r08097/600r08097.pdf
(PDF) (37 pp, 415 KB) EPA/600/R-08/097

Nanotechnology for Site Remediation: Fact Sheet
(EPA 542-F-08-009) (October 2008, 17 pages)
http://www.clu-in.org/download/remed/542-f-08-009.pdf

Natural Attenuation of the Lead Scavengers 1,2-Dibromoethane (EDB) and 1.2-Dichloroethane (1,2-DCA) at Motor Fuel Release Sites and Implications for Risk Management
US EPA. (2008). Wilson, J.T., K. Banks, R.C. Earle, Y. He, T. Kuder, and C.J. Adair.
http://www.epa.gov/ada/download/reports/600R08107/600r08107.pdf
EPA/600/R-08/107

Petroleum Brownfields Action Plan: Promoting Revitalization And Sustainability
(October 2008, 11 pages)
http://www.epa.gov/oust/rags/petrobfactionplan.pdf

Predicting Ecosystem Responses to Climate Change - Fact Sheet
http://pubs.usgs.gov/fs/2008/3093/

Quality Considerations for Munitions Response Projects
(ITRC UXO-5) (October 2008, 83 pages)
http://www.itrcweb.org/Documents/UXO-5.pdf

State Coalition for Remediation of Drycleaners (SCRD) 10-Year Accomplishments Report
(EPA 542-R-08-004) (October 2008, 6 pages)
http://www.drycleancoalition.org/download/scrd_10_year_report.pdf

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The Superfund Innovative Technology Evaluation Program, Annual Report to Congress, FY 2004
http://www.epa.gov/nrmrl/pubs/540r08006/540r08006.pdf
(PDF) (83 pp, 4.10 MB) (EPA/540/R-08/006)
September 2008

Technology News and Trends
(EPA 542-N-08-005) (October 2008, 6 pages)
http://www.clu-in.org/download/newsltrs/tnandt1008.pdf

Technology News and Trends
(EPA 542-N-08-006) (December 2008, 6 pages)
http://www.clu-in.org/download/newsltrs/tnandt1208.pdf

Technology News and Trends
(EPA 542-N-09-001) (January 2009, 6 pages)
http://www.clu-in.org/download/newsltrs/tnandt0109.pdf

Transformation of Reactive Iron Minerals in a Permeable Reactive Barrier (Biowall) Used to Treat TCE in Groundwater
He, Y.T., J.T. Wilson and R.T. Wilkin. (2008).
Environmental Science and Technology, 42, 17: 6690-6696.
http://pubs3.acs.org/acs/journals/toc.page?incoden=esthag&indecade=0&involume=42&inissue=17

Use of Sediment Core Profiling in Assessing Effectiveness of Monitored Natural Recovery
http://www.epa.gov/nrmrl/pubs/600s08014/600s08014.pdf
(PDF) (8 pp, 1.26 MB) (EPA/600/S-08/014)
August 2008

Valuing Acid Mine Drainage Remediation in West Virginia: A Hedonic Modeling Approach
Williamson, J. M. and H. W. Thurston. (2008).
http://www.springerlink.com/content/kw2320816450/?sortorder=asc&p_o=10
10.1007/s00168-007-0 Johansson, Kim, Stough (ed.), The Annals of Regional Science, Springer Science Business Media B.V, Dordrecht, Netherlands, 42(4):987-999.

Serious Scientists Gather 'Round. . .

An Ode to Science at EPA

By Mike Gill (sorry, I couldn't help myself…)

"We will restore science to its rightful place....." - President Barack Obama, January 20, 2009

Now that Barack is on our side
Let's rethink those apps for pesticides
Again, it's all about compliance
Enforcement, clean air, and yes, it's SCIENCE!

This President, he makes no bones
About our health, clean water, and homes
He knows that citizens are his clients
Not industry, no! It's about the SCIENCE!

That's right, Obama knows the score
About kids and bugs and bunnies, for sure
No longer do we have to act in defiance
When we make our decisions based on SCIENCE!

More reasons to ride your bike!

TI: Spending time in vehicles can increase PBDE exposure
AU:
JN: Environmental Science and Technology
PD: 2008
VO: 42
NO: 17
PG: 6311
PB: ACS AMERICAN CHEMICAL SOCIETY
IS: 0013-936X
PE: SEP 01
URL: http://www.ingentaconnect.com/content/docdel/art1083869179

TI: Emerging Contaminants in Car Interiors: Evaluating the Impact of Airborne PBDEs and PBDD/Fs
AU: Mandalakis, M; Stephanou, EG; Horii, Y; Kannan, K
JN: Environmental Science and Technology
PD: 2008
VO: 42
NO: 17
PG: 6431-6436
PB: ACS AMERICAN CHEMICAL SOCIETY
IS: 0013-936X
PE: SEP 01
URL: http://www.ingentaconnect.com/content/docdel/art1083869161

TI: Parametric Assessment of Climate Change Impacts of Automotive Material Substitution
AU: Geyer, R
JN: Environmental Science and Technology
PD: 2008
VO: 42
NO: 18
PG: 6973-6979
PB: ACS AMERICAN CHEMICAL SOCIETY
IS: 0013-936X
PE: SEP 15
URL: http://www.ingentaconnect.com/content/docdel/art1084199389

Disclaimer

This quarterly newsletter publication is meant to be used for information only. It does not represent the opinion of the management of the regional or national offices of EPA, only that of the author. The accuracy of the information contained herein is not guaranteed, only desired. If corrections are necessary, please contact the author. Thanks again to all of my information resources, which include EPA's OSRTI (formerly TIO), ORD (including ETV and NRMRL News) and Region 1's CEIT.

Thanks for reading it! Comments and suggestions are appreciated. If you wish to be added to or deleted from this list, please send me an email. (gill.michael@epa.gov)

Newsletter archives can be found on the EPA intranet site.....
http://www.epa.gov/osp/hstl/hstlnewsletter.htm

A number of environmental technology web resources can be found here.....
http://www.epa.gov/region09/waste/techlinks/

And don't forget the "STL" website..... http://www.epa.gov/osp/hstl.htm

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